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AND LABRADOR

NEWFOUNDLAND WEATHER CENTRE IN GANDER:

Maintaining a Public and Marine Forecasting Service

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Introduction

The Newfoundland Weather Centre in Gander dates back to 1938 when most of the meteorological personnel stationed at nearby Botwood were transferred to the terminal building in Gander. The Second World War saw a significant increase in demand for meteorological services and a number of meteorologists specializing in trans-Atlantic forecasting were sent to Gander. Public weather forecasting started after the war with weather forecasts and storm warnings for mariners.

Since that time, this role has expanded and the Weather Centre now provides weather forecasting services for the public, for mariners and for aviation purposes. Located at the terminal building at the airport, the Centre provides this service for Newfoundland and Labrador and, since 1998, the office also provides aviation forecasts for Nova Scotia, New Brunswick, Prince Edward Island and surrounding areas. The 24 hour a day, 7 day a week operation employs 21 operational meteorologists. Of these, 11 are dedicated to doing public and marine forecasts and the remaining 10 do aviation forecasts. As well, the office has two computer support people, one technical support person, and a manager, for a total staff of 25.

On Thursday, March 13, Environment Minister David Anderson announced changes to the Meteorological Service of Canada, consolidating 14 weather offices into five "centres of excellence" and three "national service offices". As a result of these changes, Gander, over the next two years, is to lose its forecasting function and become a national service office with a staff of ten. The ten positions in Gander will be new positions, intended to work with national and regional fishers' associations, marine transportation agencies and coastal communities to improve the delivery of weather information through the media, the internet and other specialized methods. They will also work with user communities, especially the small boat sector, to make the best use of current and improved forecast information. The aviation forecast activities currently carried out in Gander will be moved to the Montreal weather office and the public and marine forecast functions will be moved to Halifax.

The federal government's announcement met with strong opposition in Newfoundland and Labrador, not only from the provincial government, both government and opposition members, but also from the general public and the Professional Institute of the Public Service of Canada (PIPSC), representing professional meteorologists. Indeed, criticism of the consolidation which Environment Canada has undertaken across the country has been so severe that the announcement has twice been delayed, first in December 2002 and most recently in January. With respect to the Gander issue, meteorologists have raised a safety concern in that local knowledge, so important to local forecasting, will be lost with the downgrading of the Gander office. While current technology is indeed powerful and can provide accurate forecasts, it has limitations when dealing with "boundary layer weather", common in marine environments. This technology, in the absence of a professional meteorologist with local knowledge, may fail to accurately forecast weather events and compromise the safety of those relying on such forecasts. Municipalities have also raised concerns, taking issue with Environment Canada's argument that accuracy of weather forecasts will improve as a result of these measures. The Mayor of St. John's has suggested that the federal government's actions may be contrary to the "spirit and intent" of the Atlantic Accord, which requires that it shall establish in the

Province, where possible, " regional offices with appropriate levels of decision-making for all departments directly involved in activities relating to the offshore area."

The rationale for these changes is that they are designed to improve the quality of weather services for Canadians. Newfoundlanders and Labradorians have been assured that weather forecasts for the province will not be compromised and that there will be an improvement in forecast accuracy, timeliness and relevance to the user community due to new investments and a greater focus on science, technology and professional development. The Government of Canada has also noted that these changes are not about saving money, since part of the announcement was a commitment of $75 million in additional funds over the next five years.

The Government of Newfoundland and Labrador maintains that the changes to the Gander office in effect penalize the Province, compromise the safety of the individuals and industries which depend on accurate and timely forecasting, and preclude an opportunity to pursue a greater emphasis on science and research in this Province. There are other options for the organization of the Gander office which can result in decreased costs, achieve the objectives desired by the federal government, and maintain a critically needed public and marine forecasting service in this Province.

Rationale

Newfoundland and Labrador exhibits climatological conditions influenced by the ocean and the Arctic over approximately 75 percent of the geography of Atlantic Canada and two-thirds of the coastline. The major industries in the Province, led by the fishery and the offshore oil and gas industry, depend heavily on accurate and timely forecasting to ensure efficient operations and the safety of workers and infrastructure. Notwithstanding technological capability, it is difficult to understand how weather forecasting conducted from Halifax and Montreal, can continue to provide the essential services so necessary to these industries. Moreover, the federal government is moving forecasting services out of the Province at a time when the effects of climate change are increasingly being felt. So called "extreme weather events"are occurring with increasing frequency and accurate local forecasts are needed more than ever.

Faced with a similar situation in Manitoba, the federal government responded by leaving the Winnipeg office open as a satellite office of the newly established "centre of excellence" in Edmonton. This decision was taken apparently due to the severity of weather conditions and the large area for which the office generates forecasts. The federal Environment Minister also noted that part of the rationale for this decision was the relationship between the Winnipeg office and the University of Winnipeg, in terms of collaborative research. This proposal shows that Memorial University also has a research relationship with the Gander Weather Centre and is willing to build on that relationship. Winnipeg will retain the majority of its staff and continue to provide forecast services for and land and lake area of approximately 650,000 square kilometres. Newfoundland and Labrador also experiences severe weather and covers a large land and ocean area of approximately 1,711,000 square kilometres (2.6 times the size of the Winnipeg area), yet the federal government

has not seen fit to apply the same rationale and has downgraded the Gander office. The logic of this decision is elusive at best.

Environment Canada has approximately 420 employees in Atlantic Canada. Only 69 are located in Newfoundland and Labrador. In downgrading the Gander office to a public relations function and reducing its staff, the already limited federal presence in Newfoundland and Labrador is further diminished. There are no federal departmental Atlantic Regional Headquarters offices in this Province, but Nova Scotia has 17, New Brunswick 11 and PEI hosts the national headquarters for the Department of Veteran's Affairs. With the Gander decision, the number of Environment Canada employees in this Province will be reduced to approximately 54, with the familiar refrain that the jobs lost will go to Halifax and, in this case, some to Montreal. This continues to be an unacceptable and unwarranted policy.

Part of the stated rationale for the action taken by the federal government in this situation is a need to place a greater emphasis on science and research in the Meteorological Service of Canada, an outcome, the Province is left to conclude, which cannot be achieved at the Gander office given its perceived "isolation". In this regard, the Province notes the federal government's contention that an important research relationship has been established between Dalhousie University and the Halifax weather office. If the forecasting function at Gander can be provided remotely from Halifax and Montreal due to improved technology, it can also be conducted from Gander, as a supposed "remote" location. Moreover, information technology today, will allow research relationships to be conducted remotely as well so there is no reason why meteorologists at Gander cannot collaborate with researchers at Dalhousie University or, more to the point, Memorial University in St. John's, with little difficulty and with a greater understanding of local conditions. Indeed, there is already collaboration between Gander and Dalhousie on an extreme weather event project with a forecaster from Gander now completing his PhD at Dalhousie. This project began as a simple scientific collaboration between the Newfoundland Weather Centre and Dalhousie University.

There are many connections between Memorial University and the Gander weather office. Indeed, approximately half of the staff at the Gander office are graduates of Memorial, with degrees in physics, physical oceanography and computer science. In fact, there may be a greater emphasis on marine meteorology at Memorial than at Dalhousie. In the recent past, meteorologists at Gander have engaged in projects examining harbour sea levels and tsunami-like occurrences at sites in Newfoundland and Labrador. Work has also been done on boundary layer turbulence, extreme storm events, coastal marine meteorology and with respect to "local area knowledge". Memorial, with a strategic focus on marine science and demonstrated excellence in environmental science, has established itself as a world leader in cold ocean engineering and the effect of waves, weather and ice on various ship designs. It is a logical and appropriate centre for a focused program on Atlantic marine weather. The university is willing and able to engage in such a program, partnering with Environment Canada and an office in Gander providing public and marine forecasting services for the Atlantic region. In this regard, Memorial has provided a letter of support (attached) for this proposal. As well, the provincial government is interested in discussing ways in which it might assist in facilitating such a program at Memorial.

In more general terms, Memorial is well positioned to work with the Gander office on meteorological and climate-related research. This type of research is now being conducted in both the Faculty of Arts and the Faculty of Science. Work in the Faculty of Arts is primarily derivative, with climate-related issues emerging from research focused on other areas such as archeology and historical geography. Conclusions are emerging from these efforts which are helpful in understanding climate change in the Newfoundland and Labrador area and the forces which have shaped the region's people and culture.

Most of the climate-related research conducted at Memorial is done in the Faculty of Science. In the Physical Oceanography Department, researchers are studying coastal oceanography, conducting climate modeling and doing direct climate research. One example of a current, relevant project at Memorial is a joint program between researchers in the Physical Oceanography Department and the Department of Fisheries and Oceans and the Canadian Space Agency on satellite studies of coastal wind structure. The objective of the program is to determine the spatial structure of the coastal wind field using RADARSAT imagery. This project has clear meteorological and oceanographic dimensions in which Meteorological Service of Canada participation would be welcomed by the university. The Ocean Science Centre is conducting climate research from a biogeochemical perspective, while the Earth Sciences Department is addressing climate issues through studies of marine sediments and marine geophysics in areas such as the Labrador Sea. Finally, the Department of Geography investigates climate through geostatistical analysis and global ice studies.

Proposal

The Government of Newfoundland and Labrador proposes that the Gander Weather Centre continue to provide public and marine weather forecasting services for this Province. This can be accomplished while also achieving cost reductions (fewer staff), helping to maintain a federal presence in the Province and developing stronger relationships with Atlantic region universities, particularly Memorial University in St. John's. This can be a "win-win" situation for all concerned, providing an opportunity for the federal government to reduce its costs and promote the development of excellence in marine meteorology and marine forecasting, arguably building on existing infrastructure and knowledge in the most appropriate location.

Under this proposal the Weather Centre would be scaled back to provide public and marine forecasts for Newfoundland and Labrador only. Fewer staff would be required. A forecast desk would be required for each of the public and marine programs. The marine desk would be staffed 24 hours and the public desk 20 hours due to limited forecasting duties during the evening. To cover a 24-hour forecast desk requires six people. It is proposed that this be increased to seven to provide more opportunities for research and ongoing training. This is consistent with Environment Canada's plans for other weather offices across Canada. The public desk would require one less or six people, given that it would be staffed for 20 rather than 24 hours. For both desks, a total of thirteen operational forecasters would be required. Eleven would be dedicated to forecast production and two would be for ongoing research and training.

In addition to operational forecasters the office would also require one computer support person, one technical support person, and a manager. The Gander Weather Centre is well equipped with computer hardware and no additional equipment is required by this proposal. In addition to PC's for all staff there would also be a requirement for Linux workstations. Currently there are eight located in Gander and under the proposed set-up five would be required. Three would be used for operational purposes and the remaining two for research and training. The communications network that is required is already in place and would not require any additional funding.

In summary, this proposal would see public and marine forecasting maintained at Gander with a staff of 16 as opposed to the current 25. No new equipment would be required beyond that already in place or over and above what may already be in the office's budget. The proposal would also require that Environment Canada take a proactive approach in strengthening relations between Gander and Memorial University, perhaps by partnering in the establishment of a research chair in marine meteorology. Existing links with Dalhousie University could also be strengthened. Indeed, Environment Canada should look at using all appropriate and interested Atlantic region universities in promoting a greater emphasis on science and research in the Meteorological Service of Canada.

The current budget of the Gander Weather Centre is in the order of $1.5 million per year with approximately $1.3 million devoted to salaries and $200,000 to operations. An office employing 16 staff providing public and marine forecasting could be expected to cost approximately $830,000 in salaries annually. Operational costs would be expected to decline from the current amount given fewer staff.

To move forecast production to Halifax would not create much of a savings. Using the current technology available, it would take just as many forecasters in Halifax to do the public and marine forecasts for Newfoundland and Labrador as it would if they were in Gander. Any anticipated savings in the future due to improved technology, etc. could also be had in Gander; i.e. if at some point in the future fewer people are required to produce the forecasts, then these savings will be realized in Gander as well, and staff will be able to pursue other areas of research and development. Accordingly, it will take eleven forecasters to do the public and marine forecasts for Newfoundland and Labrador, whether they are located in Gander, Halifax, or anywhere else. The advantage is that the experience in forecasting for Newfoundland and Labrador is in Gander right now and that will result in a better product for the user. This experience will likely be lost if Gander is downgraded to a "service office", since the more experienced forecasters with ties to the community are more likely to stay in the new jobs to be created at Gander and, in that capacity, they will not be engaged in forecasting. The younger forecasters, with less experience, are more likely to take the forecasting jobs in other centres. If Atlantic Canada is destined to have only one weather forecast production centre then it should be the Newfoundland Weather Centre.

This proposal will allow the federal government to meet its mandate to provide excellence in forecasting, maintain a forecasting function and presence in this Province and take advantage of the climate-related research taking place at Memorial University.